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ABSTRACT

Summary information and recommendations of the Nursing Delineation Study of the Kentucky Nursing Education Project are presented. Nursing tasks were identified, defined, and ranked as part of a systematic analysis of the nursing profession for the purposes of statewide planning. A 17-member task force represented the major domains of nursing (administration, clinical, education, and research). The delineation of tasks according to the degree of complexity was designed to promote articulation in nursing practice and education and to better utilize different categories of nursing personnel. Three clusters of nursing tasks were identified, and variations in the complexity of skill/knowledge requirements were also reviewed that indicated different levels of tasks within each cluster. The task titles organized by cluster/level are listed. Factors influencing the sequence and grouping of tasks are discussed, and a conceptual framework to assess the comprehensiveness of the nursing task list is presented, along with the results of a content analysis of the three clusters of tasks. Recommendations are offered regarding the conceptual framework, research tools and the overall research process, and future research. (SW)

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NURSING EDUCATION PROJECT

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NURSING DELINEATION STUDY
VOLUME 3:
SUMMARY AND RECOMMENDATIONS

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COUNCIL ON HIGHER EDUCATION
FRANKFORT, KENTUCKY
AUGUST 1982

KENTUCKY NURSING EDUCATION PROJECT

NURSING DELINEATION PILOT STUDY

1981 - 1982

Volume 3

Summary and Recommendations

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This study was made possible through a grant
from the W. K. Kellogg Foundation.

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Council on Higher Education
Frankfort, Kentucky

Harry M. Snyder
Executive Director

November, 1982

"If I am not for myself,
who will be?

If I am for myself alone,
what am I?

And if not now, when?"

Hillel

We did it because it was the time to do it.

It was the "when."

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Kentucky Nursing Education Project
Council on Higher Education

1981-82
Nursing Delineation Pilot Study

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PREFACE

A task force of seventeen professionals representing major domains of nursing (administration, education, practice, and research) set forth to define what the profession of nursing is all about and, in the process, determine valid levels of practitioners required to maintain its relevancy to changing health care. The implications for curriculum and job staffing patterns became obvious.

Such an involved delineation of the nursing profession at times seemed it would be an insurmountable accomplishment. Where in fact does nursing begin and end? And what are the degrees of complexity in between? The methodology (Volume 1) used by the Kentucky Nursing Delineation Study Task Force followed an intricate series of guidelines and standards which define a task as a unit of work with a distinct beginning and an identifiable output upon its termination. Tasks describe the often times simultaneous, split-second mental and/or physical manipulation of data, materials and machines and human judgements. With careful application, a task may describe all the processes, procedures, and contingencies where it could or should be performed. The attitudinal aspects of any profession are difficult to define in understandable terms. However, the broad scope of how task is applied in this methodology provides an avenue whereby the affective domain can receive significant attention. The interface between tasks is developed when the output or product of one task is used or required to perform additional tasks. The varying degrees of skill and knowledge necessary to accomplish each task become the basis for determining levels of practice and corresponding education requirements.

Upon reflection of its year's effort, the task force has achieved a milestone in cooperative sharing of ideas to describe the nursing profession in a manner that is pertinent to practice and educational settings. The recognition that the results (Volume 2) are only representative is at once frustrating and truly rewarding. A methodology has been found to direct personal and professional biases of nurse administrators, educators, practitioners and researchers into objective analysis of their profession. However, the task force is the first to recommend that the study be continued and replicated if the true impact of the results is to be felt, acknowledged and acted upon.

ACKNOWLEDGEMENTS

Through the philosophical and financial support of the W. K. Kellogg Foundation and the Kentucky Council on Higher Education; Mr. Harry M. Snyder, Executive Director, the Nursing Delineation Study has become a reality.

The members of the Subcommittee on Nursing Education under the direction of Dr. Irene Hudleson, Associate Director for Nursing (Council on Higher Education) were the first to set forth the notion of conducting the study and established a plan for its implementation. Their continuous guidance provided support throughout the study.

This pilot study could not have been conducted without the support of the participants' employers. Each facility provided leave time for monthly meetings and encouraged the involvement of their staff. Without this level of commitment and recognition of the importance of the study, accomplishing such a formidable task would not have been possible.

Several other people were instrumental in the development of this study. Dr. Eleaner Gilpatrick (Hunter College, New York) whose task analysis concepts and procedures are the guts of the methodology described herein, is extended sincere gratitude for the many years she dedicated to the developing the Health Service Mobility Study (HSMS). Dr. Gary Breegle (Kentucky Council on Higher Education) provided analytical expertise and unending guidance and encouragement to understand and adapt HSMS to today's world of computers. Ms. Angela Mahoney devoted substantial time and talent to program these computer adaptations and met the always present deadlines of the study. There were many support staff from the Council on Higher Education, especially Ms. Teresa Kinne, Ms. Ruth Taulbee and Ms. Sandy Waits, who spent seemingly endless hours typing and revising the work of the Nursing Delineation Study Task Force. To all these people, thank you.

SPECIAL NOTE TO THE READER

It is imperative that the reader understand several pertinent points about the Kentucky Delineation Pilot Study, primarily concerning the degree to which the participants of the study felt they were able to maintain their high standards and still produce even preliminary results.

Implementation of the methodology described in Volume 1: Methods Report allowed a logical, systematic analysis of the nursing profession for the purpose of statewide planning. After working with the methodology for one year, the study task force remained confident the basic premises of the method are valid. Additionally, the members believed the interpretation of nursing in terms of definable "tasks" is not limited to a traditionally technical slant but is also able to address the affective aspects of nursing.

The most significant limitation of the study continues to be the alloted timetable. The massive preliminary data generated by the pilot study are seen as only representative but also as an excellent base from which to continue refining, evaluating and producing more comprehensive results.

As the reader reviews the delineation study results, it should be noted that once nursing tasks were defined and ranked according to degree of complexity, the task list was still only representative and that much more work on the study is clearly indicated and recommended by the task force.

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1 SUMMARY

Purpose/Setting

The Nursing Delineation Study (1981-82) was conducted as a cooperative effort by a statewide, voluntary task force of nurse administrators, educators, practitioners and researchers. The study represents one segment of a nursing project to develop a coordinated statewide system of nursing education in Kentucky. The Kentucky Nursing Education Project (1977-82) was administered under the auspices of the Council on Higher Education and funded jointly by the Council and a W. K. Kellogg Foundation grant made available through the Southern Regional Education Board Nursing Curriculum Project.

The Nursing Delineation Study served as a forum for nursing education and nursing service to work cooperatively to explore, define, and plan for the education and utilization of the different categories of nursing personnel essential to the delivery of quality nursing care in an expanding health system.

The task force was formed and successfully functioned to establish an objective effort to develop a common definition of the nursing role that is understood and accepted by employers, practitioners and educators.

Methodology

The Kentucky Nursing Delineation Study has successfully pilot tested the validity and reliability of Gilpatrick's Health Services Mobility Study (HSMS) Method of Task Analysis and Curriculum Design. Although Council staff made procedural adaptations and where possible simplications for computer assisted analysis and reporting, the basic theory, guidelines and process components are based on the original HSMS model. A detailed description of the study procedures is presented in Volume 1: Methods Report (August 1982).

The basic outline of the Nursing Delineation Study is shown in Figure 1.0 and includes the following five steps:

1.) A master list is identified of all nursing "tasks."

2.) Each task is systematically described according to a strict definition of the term "task."

3.) A. Each task description is scaled for the type and level of skill required for its successful performance and annotated regarding which part(s) of the task requires it.

B. Each task description is also scaled for the type and level of knowledge required for its successful performance and annotated regarding which part(s) of the task requires it.

4.) The task list, descriptions and skill/knowledge scalings are reviewed for accuracy and comprehensiveness by external consultants*; revisions and corrections are made as appropriate. Also, intragroup validation continually occurs as the preceding steps are conducted.

*Five national consultants, each with expertise in one or more of the domains of nursing (i.e., administration, clinical, education, research) independently reviewed task data corresponding to their respective area(s) of expertise.

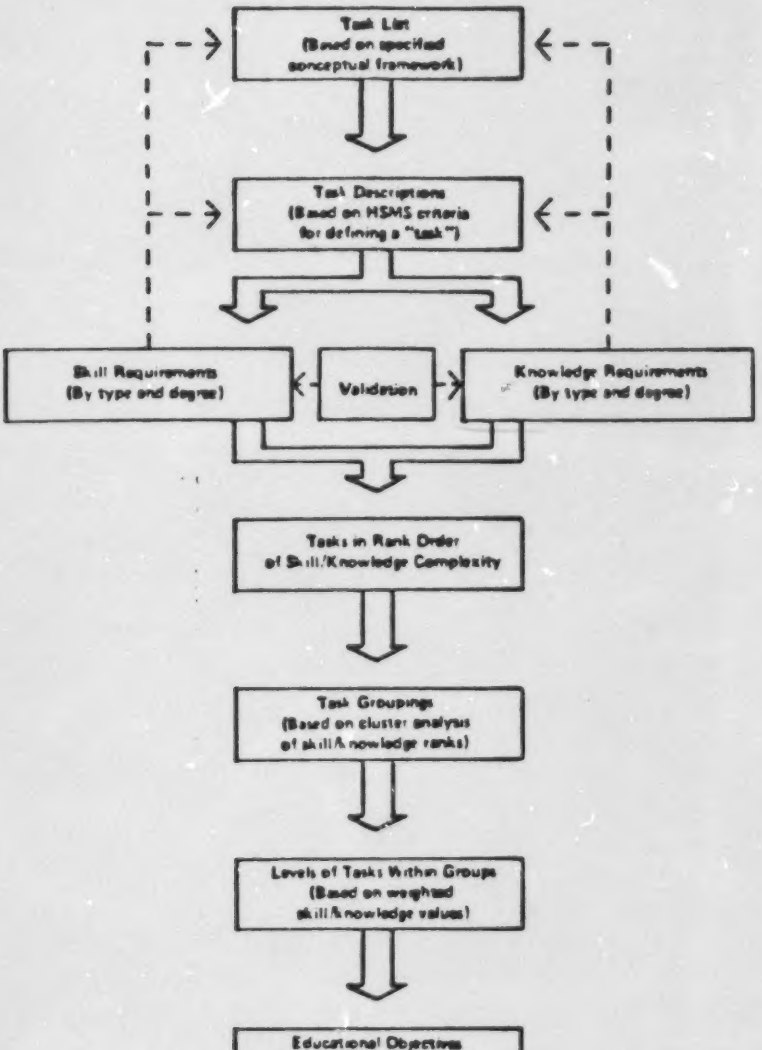

Figure 1. Overview of Nursing Delineation Study Using HSMS.

5.) The data are finally analyzed through a series of procedures briefly described here:

A. scale values, and therefore, tasks are ranked within and among the tasks;
B. based on the rankings, cluster analysis is performed to identify groups of tasks;
C. levels of practice within each group are distinguished by weighting the scale values for each skill or knowledge area used in a given group (or cluster) of tasks.
D. job descriptions and corresponding educational objectives are compiled from the task data for each level of practice.

Results

Three clusters of nursing tasks were identified as a result of the Nursing Delineation Pilot Study. Variations in the complexity of skill/knowledge requirements were also reviewed which indicated different levels of tasks within each cluster as follows:

Cluster 1 - Level 1
- Level 2
- Level 3
- Level 4

Cluster 2 - Level 1
- Level 2
- Level 3

Cluster 3 - Level 1

Task List. The task titles organized by cluster/level are listed on the following pages:

Cluster 1 - Level 1

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
279	PROVIDE ORAL HYGIENE.
280	MEASURE URINE SUGAR AND ACETONE.
288	ASSESS BODY WEIGHT
158	USE REALITY ORIENTATION IN A ONE TO ONE INTERACTION.
284	MEASURE URINE SPECIFIC GRAVITY.
161	PLAN APPROPRIATE BED POSITIONING FOR DISABLED CLIENT.
156	IMPLEMENT SUICIDE PRECAUTIONS.
011	IDENTIFY EQUIPMENT NEEDS.
181	PLACE CLIENT IN ISOLATION.
182	TRANSPORT AN ISOLATED CLIENT.
157	PREPARE A REALITY ORIENTATION CLASS.
151	PERFORM PASSIVE RANGE OF MOTION.
275	FEED CLIENT VIA NASOGASTRIC FEEDING TUBE.
162	POSITION DISABLED CLIENT IN BED.
454	PREPARE WRITTEN MINUTES OF MEETINGS.
211	APPLY AN EXTERNAL CATHETER TO MALE CLIENT.
153	TRANSFER DISABLED CLIENT FROM BED TO CHAIR.
204	MAINTAIN CLIENT'S INDWELLING CATHETER.
210	COLLECT A URINE SPECIMEN.
283	ASSESS INTAKE AND OUTPUT.
200	ADMINISTER A CLEANSING ENEMA.
207	PROMOTE NORMAL BLADDER FUNCTION.
282	MEASURE INTAKE AND OUTPUT.
187	INITIATE PROCESS FOR PLACING CLIENT IN ISOLATION.
160	LEAD A REALITY ORIENTATION CLASS.
201	REMOVE A STOOL IMPACTION.
183	IMPLEMENT CLIENT INFECTION PRECAUTIONS.
033	PREPARE WRITTEN COMMUNICATION.
278	PROVIDE CARE FOR CLIENT WITH NASOGASTRIC TUBE HOOKED TO SUCTION.
159	PLAN AN INDIVIDUAL REALITY ORIENTATION PROGRAM.
277	PERFORM GASTRIC Lavage
152	PLAN TRANSFER OF CLIENT FROM BED TO CHAIR.

Cluster 1 - Level 2

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
276	INSERT A NASOGASTRIC TUBE.
208	PROMOTE NORMAL BOWEL FUNCTION.
049	PLAN A STAFF RECOGNITION PROGRAM.
050	DEVELOP A NURSE ORIENTATION PROGRAM.
489	EVALUATE INSTITUTIONAL POLICIES AND STANDARDS BY GROUP PROCESS.
150	PLAN FOR PASSIVE RANGE OF MOTION.
206	INSERT URINARY CATHETER IN FEMALE CLIENT.
125	ASSESS LOCHIA.
445	DETERMINE ELIGIBILITY OF DOMESTIC NURSE GRADUATE FOR NURSING LICENSURE.
188	ESTABLISH PLAN OF CARE TO MAINTAIN SKIN INTEGRITY.
177	ADMINISTER ALCOHOL OR TEPID SPONGE BATH.
267	PERFORM CARDIOPULMONARY RESUSCITATION.
209	ASSESS THE CLIENT'S BOWEL FUNCTION.
205	INSERT URINARY CATHETER IN MALE CLIENT.
140	DEVELOP PLAN FOR ASSESSMENT OF THE BREASTS.
126	PERFORM PHYSICAL ASSESSMENT OF PERINEUM.
178	USE A HYPO- OR HYPERTHERMIA BLANKET.
127	ASSESS THE BREASTS OF A POSTPARTUM CLIENT.
175	PROVIDE ALTERNATE METHODS OF COMMUNICATION FOR CLIENT WITH VERBAL COMMUNICATION DEFICIT.
290	PROMOTE NORMAL HYDRATION.
034	WRITE BEHAVIORAL OBJECTIVES FOR NURSING ADMINISTRATION.
230	PERFORM A BACK RUB.
047	PARTICIPATE AS A MEMBER OF A COMMITTEE.
124	PERFORM PHYSICAL ASSESSMENT OF UTERINE FUNDUS.
155	ASSESS SUICIDAL BEHAVIOR.
137	DEVELOP PLAN FOR ASSESSING THE UTERINE FUNDUS.
138	DEVELOP PLAN FOR ASSESSING LOCHIA.

Cluster 1 - Level 2 (continued)

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
139	DEVELOP PLAN FOR ASSESSING THE PERINEUM.
287	MAINTAIN INTERMITTENT INTRAVENOUS INFUSION OF FLUID/MEDICATION.
147	ASSESS MATERNAL-INFANT ATTACHMENT.
179	CHANGE STERILE DRESSING.
037	IMPLEMENT THE CONSULTATIVE PROCESS.
042	WRITE A NURSING STANDARD.
043	PREPARE A NURSING SERVICE BUDGET.
506	DEVELOP A TEST BLUEPRINT.
186	DEVELOP PLAN FOR ASSESSING THE NEUROLOGICAL STATUS OF A CLIENT.
048	DEVELOP A PLAN FOR NURSE RETENTION.
460	ESTABLISH COMMITTEES.
180	CLEAN INCISIONAL BUTTON OR TRACTIONAL PINS.
129	TEACH A CLIENT HOW TO BATHE A BABY.
128	TEACH A CLIENT PERINEAL SELF-CARE.
032	IMPLEMENT A DECISION.
142	DEVELOP A PLAN TO TEACH A CLIENT HOW TO BATHE A BABY.
045	MONITOR A NURSING BUDGET.
487	SCHEDULE EDUCATIONAL ACTIVITIES.
404	DETERMINE ELIGIBILITY FOR REGISTRATION AS AN ADVANCED REGISTERED NURSE PRACTITIONER.

Cluster 1 - Level 3

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
285	START AN INTRAVENOUS INFUSION.
145	DEVELOP A PLAN TO TEACH A CLIENT TO PERFORM A BREAST SELF-EXAMINATION.
131	TEACH A CLIENT BREAST FEEDING.
269	OBTAIN AN ELECTROCARDIOGRAPHIC READING.
840	ISSUE AN ORDER.
130	TEACH A CLIENT HOW TO BOTTLE FEED A BABY.
291	TEACH CLIENT A SPECIFIED PROCEDURE.
143	DEVELOP A PLAN TO TEACH A CLIENT TO BOTTLE FEED A BABY.
281	IMPLEMENT A NURSING REFERRAL.
831	MAKE A DECISION.
141	DEVELOP A PLAN TO TEACH PERINEAL SELF-CARE.
132	TEACH A CLIENT HOW TO PERFORM A BREAST SELF-EXAMINATION.
154	ADMINISTER TOTAL PARENTERAL NUTRITION.
490	COORDINATE THE ACTIVITIES OF OTHERS.
286	MAINTAIN CONTINUOUS PERIPHERAL INTRAVENOUS THERAPY.
446	PREPARE CORRESPONDENCE.
839	DEVELOP A PHILOSOPHY OF NURSING SERVICE.
514	DEVELOP COURSE CONTENT.
469	RECRUIT STUDENTS.
229	ADMINISTER AN INTRAMUSCULAR, INTRADERMAL OR SUBCUTANEOUS INJECTION.
144	DEVELOP A PLAN TO TEACH A CLIENT BREAST FEEDING.
136	OBTAIN A SEXUAL HISTORY.
263	OBTAIN A BLOOD PRESSURE READING.
488	ASSIGN WORK LOADS TO PERSONNEL.
251	ASSESS PULSE PRESENCE, RATE, VOLUME, AND RHYTHM.
184	ASSESS NEUROLOGICAL STATUS OF CLIENT.
185	INITIATE CLIENT NEUROLOGICAL CHECKS.
442	DEVELOP PROFESSIONAL, ORGANIZATIONAL POLICY/GOAL.
133	PERFORM PHYSICAL ASSESSMENT OF THE BREASTS.
421	SELECT APPLICANTS FOR ADMISSION INTO A NURSING PROGRAM.
809	IDENTIFY OUTCOME CHARACTERISTICS OF THE GRADUATE OF A NURSING PROGRAM.

Cluster 1 - Level 3 (Continued)

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
468	ACT AS CHANGE AGENT.
405	DETERMINE ELIGIBILITY OF GRADUATES OF FOREIGN NURSING SCHOOLS FOR STATE BOARD TEST POOL EXAMINATION/ENDORSEMENT LICENSURE.
431	MAKE RECOMMENDATIONS FOR NURSING FACULTY SALARY/PROMOTION/TENURE.
541	WRITE A REFERENCE.
323	WRITE THE DELIMITATIONS FOR NURSING RESEARCH.
270	INITIATE UNDER WATER SEAL CHEST DRAINAGE.
272	ASSESS HEART SOUNDS.
423	DETERMINE QUOTA OF NURSING PROGRAM ADMISSIONS.
407	DETERMINE ELIGIBILITY OF DOMESTIC NURSE GRADUATE FOR NURSING LICENSURE BY ENDORSEMENT.
459	SCHEDULE ACTIVITIES, MEETINGS, WORKSHOPS, CONFERENCES.
511	ASSESS THE NEED FOR A COURSE.
255	AUSCULTATE LUNG SOUNDS.
259	ASSESS CLIENT CARDIOPULMONARY STATUS VIA A SWAN GANZ READING.
232	USE CUTANEOUS STIMULATION FOR PAIN CONTROL.
516	DEVELOP AN ESSAY TEST QUESTION.
271	DEVELOP A PLAN OF CARE FOR A CLIENT WITH A BLAKEMORE TUBE.
254	ASSESS PERIPHERAL CIRCULATION.
315	WRITE PURPOSE STATEMENT FOR NURSING RESEARCH.
135	ASSIST A CLIENT TO SELECT A CONTRACEPTIVE METHOD.
406	DETERMINE ELIGIBILITY FOR NURSING LICENSURE OF APPLICANTS WITH CRIMINAL CONVICTION RECORDS.
355	OBTAIN CONSENT TO IMPLEMENT DATA COLLECTION IN NURSING RESEARCH.
252	ASSESS RATE, REGULARITY, EFFORT/DEPTH OF RESPIRATIONS.
146	TEACH A CLIENT ABOUT SEXUALLY TRANSMITTED DISEASES.

Cluster 1 - Level 3 (Continued)

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
302	SEEK FUNDING SOURCES FOR NURSING RESEARCH.
448	SELECT LIBRARY HOLDINGS FOR UNIT IN NURSING.
321	DEFINE TERMS FOR NURSING RESEARCH.
465	ASSESS EMOTIONAL STATUS OF CLIENT.
264	SUCTION THE AIRWAY.
203	DEVELOP A PLAN FOR BLADDER RETRAINING.
515	PREPARE INFORMATION ABOUT NURSING PROGRAM FOR PUBLICATION.
134	TEACH A CLIENT ABOUT CONTRACEPTIVE METHODS.
268	DEFIBRILLATE A CLIENT.
007	DEVELOP STRATEGIES FOR CONFLICT RESOLUTION.
457	DEVELOP A PLAN FOR CHANGE.
485	RECRUIT FACULTY MEMBERS.
364	PREPARE COLLECTED RESEARCH DATA FOR ANALYSIS.

Cluster 1 - Level 4

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
307	PREPARE AN OBJECTIVE TEST.
345	PREPARE A BIBLIOGRAPHY FOR A SPECIFIC NURSING COURSE.
273	DEVELOP A PLAN TO PROMOTE OPTIMAL CARDIAC FUNCTION.
452	DEVELOP FACULTY & ADMINISTRATOR'S JOB DESCRIPTIONS.
464	ASSIST WITH PROBLEM-SOLVING DURING COUNSELING.
312	DEVELOP A COURSE PROPOSAL.
266	VENTILATE A CLIENT WITH A MECHANICAL VENTILATOR.
484	SELECT AN APPROPRIATE TEACHING STRATEGY.
202	DEVELOP A PLAN FOR BOWEL RETRAINING.

Cluster 2 - Level 1

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
836	CONDUCT A CONFERENCE.
842	DEVELOP A GRADING SCALE FOR COURSES IN NURSING.
322	WRITE THE LIMITATIONS OF NURSING RESEARCH.
835	PLAN A CONFERENCE.
265	VENTILATE A CLIENT WITH A HAND VENTILATOR.
310	STATE NURSING RESEARCH PROBLEM.
401	SCHEDULE DISCIPLINARY HEARINGS BEFORE THE NURSING REGULATORY BOARD.
467	CONDUCT PROFESSIONAL DEVELOPMENT PROGRAMS.
381	DEVELOP PROCESS AND PROCEDURE FOR HUMAN RIGHTS PROTECTION.
471	ACT AS CLIENT ADVOCATE.
262	DEVELOP A PLAN TO INSURE ADEQUATE VENTILATION.

Cluster 2 - Level 2

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
851	EMPLOY NURSE STAFF.
443	PREPARE REPORT ON COMPLAINTS ABOUT REGISTERED NURSES AND LICENSED PRACTICAL NURSES.
253	ASSESS THE NEED FOR SUCTIONING THE AIRWAY.
330	WRITE NURSING RESEARCH QUESTIONS AND/OR HYPOTHESIS(ES).
236	PREVENT INJURY DURING A GRAND MAL SEIZURE.
346	SELECT A DATA COLLECTION TOOL.
380	DISSEMINATE THE NURSING RESEARCH REPORT.
504	SELECT STRATEGIES FOR ACHIEVING OUTCOME OBJECTIVES.
815	DEVELOP A STAFFING PATTERN.
546	WRITE BEHAVORIAL OBJECTIVES FOR NURSING COURSE.
324	WRITE THE ASSUMPTIONS FOR THE NURSING RESEARCH.
502	WRITE BEHAVIORAL OBJECTIVES FOR A LEARNER TO ACHIEVE SPECIFIC OUTCOMES.
808	DELEGATE TASK(S).
432	EVALUATE STUDENT PROGRESS THROUGH NURSING PROGRAM.
548	DEVELOP ADMISSION CRITERA FOR NURSING PROGRAM.
345	SELECT POPULATION FOR NURSING RESEARCH.
449	SELECT AUDIO-VISUAL MATERIALS.
813	ESTABLISH A QUALITY ASSURANCE PROGRAM.
544	SELECT STUDENT CLINICAL LEARNING EXPERIENCES.
101	ASSIST CLIENT TO COPE WITH ANXIETY.
451	PREPARE BUDGET FOR NURSING EDUCATION UNIT.
102	PROVIDE INDIVIDUAL PSYCHOTHERAPY.
370	INTERPRET STATISTICAL NURSING RESEARCH DATA.
305	CONDUCT A LITERATURE REVIEW.
801	MEET REQUIREMENTS OF REGULATING BODY.

Cluster 2 - Level 2 (Continued)

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
510	DEVELOP A COURSE OUTLINE.
104	PROVIDE FAMILY PSYCHOTHERAPY.
400	INVESTIGATE COMPLAINTS RELATED TO PROFESSIONAL NURSING PRACTICE.
347	VALIDATE DATA COLLECTION TOOL.
103	PERFORM CRISIS INTERVENTION.
453	RECOMMEND CANDIDATE FOR FACULTY APPOINTMENT.
006	CONDUCT A PERFORMANCE APPRAISAL.
105	PROVIDE GROUP PSYCHOTHERAPY.
301	CRITIQUE NURSING RESEARCH REPORT.
403	ASSESS COMPLIANCE OF LICENSEES WITH TERMS OF PROBATION.
543	SELECT CLINICAL SITES FOR NURSING COURSES.
466	EVALUATE BEHAVIORAL CHANGE.
041	WRITE NURSING PROCEDURES.
482	ASSESS LEARNER READINESS.
486	DISMISS STUDENTS FROM NURSING PROGRAM.
352	PREPARE BUDGET OF EXPENSES FOR NURSING RESEARCH PROJECT.
505	DEVELOP AN OBJECTIVE TEST QUESTION.
483	SELECT TEACHING AIDS.
038	WRITE A NURSING SERVICE POLICY.
065	DEVELOP AN ORGANIZATIONAL CHART.
440	DEVELOP COURSE EVALUATION TOOL.
503	EVALUATE OUTCOME OBJECTIVE(S).
456	WRITE A SCHOLARLY WORK FOR PUBLICATION.
052	WRITE A JOB DESCRIPTION.
340	DEVELOP A DATA COLLECTION TOOL.
340	COLLECT NURSING RESEARCH DATA.

Cluster 2 - Level 3

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
455	WRITE A GRANT/CONTRACT PROPOSAL.
044	IMPLEMENT STRATEGIES FOR GRIEVANCE.
345	ANALYZE NURSING RESEARCH DATA.
231	USE DISTRACTION FOR PAIN CONTROL.
308	DEVELOP A PHILOSOPHY OF NURSING EDUCATION.
450	DEVELOP BYLAWS FOR UNIT IN NURSING.
054	WRITE A NURSING JOB SPECIFICATION.
055	PLAN A STAFF DEVELOPMENT PROGRAM.
335	SELECT THE METHOD FOR CONDUCTING NURSING RESEARCH.
233	ASSIST THE CLIENT TO RELAX SYSTEMATICALLY.
447	PREPARE LEGAL AGREEMENTS &/OR CONTRACTS WITH COMMUNITY HEALTH FACILITIES.
046	CONDUCT AN EXIT INTERVIEW.
347	DEVELOP A NURSING CURRICULUM.
481	DEVELOP A CONCEPTUAL FRAMEWORK.
303	DEVELOP A THEORY OF NURSING.
433	EVALUATE FACILITIES, RESOURCES, AND SERVICES OF NURSING CURRICULUM.
424	EVALUATE ADMISSIONS PROCESS OF NURSING PROGRAM.
257	ASSESS CLIENT'S NEED FOR OXYGEN THERAPY.
225	DEVELOP A PLAN TO ASSIST CLIENT TO SLEEP.
425	EVALUATE NURSING PROGRAM VIA FOLLOW-UP SURVEY OF EMPLOYEES.
227	PLAN FOR MANAGEMENT OF SENSORY OVERLOAD.
228	DEVELOP A PLAN FOR PAIN CONTROL.
053	EVALUATE NURSING JOB DESCRIPTIONS.

Cluster 3

HEALTH SERVICES MOBILITY STUDY

NURSING

TASK NUMBER	Task Title
429	CONDUCT PEER EVALUATION OF NURSING FACULTY.
426	DEVELOP AN EVALUATION MODEL/PLAN FOR NURSING PROGRAM.
501	IDENTIFY THE LEARNING NEEDS OF STUDENTS.
434	CONDUCT SELF-STUDY OF NURSING PROGRAM FOR ACCREDITATION.
375	WRITE A NURSING RESEARCH REPORT.
350	WRITE PROPOSAL FOR NURSING RESEARCH.
437	EVALUATE NURSING ORGANIZATION/ADMINISTRATION.
428	EVALUATE NURSING PROGRAM VIA SURVEY OF GRADUATES.
435	PREPARE REPORTS FOR APPROVAL AGENCIES.
436	PREPARE REPORTS FOR GOVERNING INSTITUTION.
226	PLAN FOR MANAGEMENT OF SENSORY DEPRIVATION.
438	EVALUATE NURSING CURRICULUM.
427	CONDUCT SUMMATIVE PROGRAM EVALUATION.
441	PREPARE SITE VISIT REPORTS ON INSTITUTION OR UNIT FOR ACCREDITING/APPROVAL AGENCY.

The complete set of existing task descriptions can be found in Volume 2 of this report along with the breakdown of their corresponding applications of skill/knowledge by degree of complexity.

Skill/Knowledge Requirements. A comparative overview of the median skill/knowledge requirements verifies the increasing trend in levels of complexity observable within a given cluster or among all levels. Table 1 provides the opportunity to review such trends.

Table 1.0

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

SKILL NO.	SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 1
2	LOCOMOTION	3.25	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3	OBJECT MANIPULATION	3.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4	GUIDING OR STEERING	3.00	3.00	5.50	5.50	3.00	4.25	5.50	3.00
5	HUMAN INTERACTION	3.00	5.00	5.00	7.00	9.00	9.00	9.00	7.00
6	LEADERSHIP	2.00	3.00	4.50	7.50	6.50	5.50	6.50	6.50
7	LANGUAGE: ORAL USE	2.50	4.00	7.50	7.50	7.50	7.50	7.50	7.50
8	LANGUAGE: READING USE	2.00	5.00	5.00	7.00	7.00	7.00	7.00	7.00
9	LANGUAGE: WRITTEN USE	2.00	5.00	5.00	5.00	5.00	5.00	5.00	6.50
10	DECISION: METHODS	3.00	4.50	4.50	7.00	7.00	7.00	9.00	7.00
11	DECISION: QUALITY	5.50	7.00	7.00	7.00	7.00	9.00	9.00	7.00
12	FIGURAL	0.00	0.00	1.00	1.00	1.00	3.50	1.00	3.50
13	SYMBOLIC	1.50	1.50	1.50	3.50	7.00	5.00	5.00	3.50
14	TAXONOMIC	2.00	5.50	7.00	7.00	7.00	7.00	7.00	7.00
15	IMPLICATIVE	2.00	4.00	5.00	5.00	8.00	8.00	8.00	8.00
16	ERROR: FINANCIAL	4.00	4.00	4.00	3.75	4.00	4.00	1.00	4.00
17	ERROR: HUMAN	2.00	3.00	5.50	4.50	3.00	5.50	3.00	2.00
31000000	GENETICS	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00
31730000	HUMAN ZOOLOGY	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
31731000	NORMAL STRUCTURE & FUNCTION	5.50	3.50	5.50	0.00	0.00	7.00	0.00	0.00
31731100	REGIONAL ANATOMY	5.50	2.25	3.50	3.25	3.25	5.25	6.25	0.00
31731200	TOPOGRAPHIC ANATOMY	5.50	5.50	7.00	0.00	0.00	0.00	0.00	0.00
31731300	HEMATOPOIETIC SYSTEM	3.50	5.50	5.50	0.00	0.00	0.00	5.50	0.00
31731400	CIRCULATORY SYSTEM	4.50	4.50	3.50	3.50	0.00	3.50	5.50	0.00
31731500	RESPIRATORY SYSTEM	4.50	2.50	3.50	3.50	3.50	3.50	5.50	0.00
31731510	UPPER RESPIRATORY SYSTEM	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
31731520	LOWER RESPIRATORY SYSTEM	0.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
31731530	LUNGS AND DIAPHRAGM	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.00
31731600	DIGESTIVE SYSTEM	0.00	2.50	4.50	3.50	0.00	0.00	7.00	0.00
31731610	MOUTH, PHARYNX & ESOPHAGUS	3.50	5.50	0.00	0.00	0.00	0.00	0.00	0.00
31731620	STOMACH AND SMALL INTESTINE	5.50	4.25	0.00	0.00	0.00	0.00	0.00	0.00
31731630	LARGE INTESTINE (COLON) AND RECTUM	1.50	2.00	0.00	7.00	0.00	0.00	0.00	0.00
31731700	URINARY SYSTEM	3.00	3.50	6.25	0.00	0.00	0.00	0.00	0.00
31731800	MUSCO-SKELETAL SYSTEM	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00
31731810	MUSCLES	0.00	3.50	4.50	0.00	0.00	0.00	7.00	0.00
31731820	BONES AND JOINTS	0.00	4.00	3.50	0.00	0.00	0.00	0.00	0.00
31731830	INTEGUMENT	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31731831	SKIN AND SWEAT GLANDS	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00
31731900	NERVOUS SYSTEM	0.00	5.50	5.50	7.00	0.00	0.00	5.50	0.00
31731910	CENTRAL NERVOUS SYSTEM	5.50	3.50	5.50	0.00	0.00	0.00	7.00	0.00
31731920	PERIPHERAL NERVOUS SYSTEM	0.00	1.50	3.50	0.00	0.00	0.00	6.75	0.00
31731930	AUTONOMIC NERVOUS SYSTEM	0.00	2.50	3.50	0.00	0.00	0.00	5.50	0.00
31731940	ORGANS OF SPECIAL SENSES	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00
31731943	EYE AND OPTIC NERVE	0.00	2.50	3.50	0.00	0.00	0.00	7.00	0.00

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 1
11731946	TOUCH, HEAT, COLD & PAIN RECEPTORS	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00
11731949	THE EAR	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00
11732100	IMMUNOLOGIC SYSTEM	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
11732200	ENDOCRINE SYSTEM AND REPRODUCTION	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11732220	REPRODUCTION	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11732221	CONCEPTION AND CONTRACEPTION	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
11732222	MALE REPRODUCTIVE SYSTEM	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
11732223	FEMALE REPRODUCTIVE SYSTEM	0.00	2.50	6.25	0.00	0.00	0.00	0.00	0.00
11732300	HOMEOSTASIS OF FLUIDS	3.50	5.50	7.00	0.00	0.00	0.00	5.50	0.00
11732400	METABOLISM	0.00	2.50	5.50	0.00	0.00	0.00	0.00	0.00
11733000	PATHOLOGY	5.50	2.50	5.50	0.00	0.00	0.00	7.00	0.00
11733100	INFECTIVE & PARASITIC DISEASES	1.50	0.00	6.25	0.00	0.00	0.00	5.50	0.00
11733200	NEOPLASMS	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11733300	ENDOCRINE/NUTRITIONAL/METABOLIC DISORDERS	0.00	0.00	5.50	0.00	0.00	0.00	5.50	0.00
11733400	DISORDERS OF BLOOD/BLOOD-FORMING ORGANS	0.00	0.00	4.50	0.00	0.00	0.00	5.50	0.00
11733500	DISORDERS OF NERVOUS SYSTEM/SENSE ORGANS	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
11733510	DISORDERS OF CENTRAL NERVOUS SYSTEM	5.50	2.50	0.00	0.00	0.00	3.50	5.50	0.00
11733520	DISORDERS OF PERIPHERAL NERVOUS SYSTEM	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
11733530	DISORDERS OF AUTONOMIC NERVOUS SYSTEM	5.50	2.50	0.00	0.00	0.00	0.00	0.00	0.00
11733543	DISORDERS OF EYE/OPTIC NERVE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50
11733545	DISORDERS OF EAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50
11733600	DISORDERS OF CIRCULATORY SYSTEM	0.00	5.50	5.50	5.50	0.00	5.50	5.50	0.00
11733700	DISORDERS OF DIGESTIVE SYSTEM	7.00	2.50	5.50	7.00	0.00	0.00	0.00	0.00
11733900	DISORDERS OF RESPIRATORY SYSTEM	0.00	2.50	5.50	5.50	5.50	5.50	5.50	0.00
11734000	DISORDERS OF URO-GENITAL SYSTEM	2.50	5.50	7.00	0.00	0.00	0.00	0.00	0.00
11734100	DISORDERS OF SKIN/SUBCUTANEOUS TISSUES	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
11734200	DISORDERS OF MUSC-SKEL SYS/CONNECT TISSU	5.50	5.50	0.00	0.00	0.00	0.00	0.00	0.00
11734300	CONGENITAL ABNORMALITIES	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
11734400	DISORDERS OF PREG/BIRTH/PUERPERIUM	0.00	5.50	5.50	0.00	0.00	0.00	5.50	0.00
11734500	SHOCK AND TRAUMA	0.00	0.00	0.00	0.00	0.00	5.50	5.50	0.00
11735000	SURGERY	2.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
11735100	OPERATIVE PROCEDURES	0.00	2.50	5.50	0.00	0.00	0.00	5.50	0.00
11735300	REPAIR SURGERY	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
11735400	INTRODUCTORY SURGICAL PROCEDURES	0.00	0.00	4.50	0.00	5.50	9.00	5.50	0.00
11735700	MANIPULATION	0.00	2.50	5.50	0.00	5.50	0.00	0.00	0.00
11736000	ANESTHESIOLOGY	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
11737100	BANDAGES/DRESSINGS/TOURNIQUETS/SPLINTS	0.00	5.50	0.00	0.00	0.00	0.00	0.00	0.00
11737300	HANDLING & TRANSPORTATION OF SICK/WOUNDED	5.50	0.00	0.00	0.00	0.00	5.50	0.00	0.00
11737600	RESUSCITATION	0.00	0.00	5.50	0.00	0.00	0.00	5.50	0.00
11737700	WOUNDS & THEIR HEALING	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
11739000	ASEPSIS	0.00	0.00	5.50	0.00	5.50	5.50	0.00	0.00
11739100	MEDICAL ASEPSIS	2.50	2.50	2.50	2.50	2.50	2.50	4.50	5.50
11739000	COMMUNITY HEALTH & PREVENTIVE MEDICINE	0.00	0.00	0.00	4.50	4.50	0.00	0.00	0.00

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 1
11739100	TREATMENT OF SOCIAL CAUSES OF ILLNESS	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
11739200	MAKING DIAGNOSIS REFERRAL & TREATMENT	0.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00
11739300	REHAB & RESTOR OF IND'V TO COMMUNITY	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11739410	AIR AND WATER POLLUTION	0.00	0.00	0.00	0.00	3.50	0.00	5.50	0.00
11740000	PHYSICAL ASSESSMENT	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11741000	EPIDEMIOLOGY	0.00	5.50	5.50	0.00	0.00	2.50	5.50	5.50
11742110	KINESIOLOGY AND BODY MECHANICS	5.50	4.00	0.00	0.00	0.00	0.00	7.00	0.00
11742120	DISABILITY EVALUATION	0.00	0.00	3.50	7.00	0.00	0.00	0.00	0.00
11742132	COPD, PREV. & COMPEN ADJUSTMENTS	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11742133	SPECIAL POST-DIS & CHRONIC DIS THER	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
11742143	HEAT THERAPY	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.00
11742146	COLD THERAPY	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.00
11742147	MASSAGE	0.00	2.50	5.50	0.00	0.00	0.00	0.00	0.00
11742148	EXERCISE	0.00	5.50	0.00	0.00	0.00	0.00	7.00	0.00
11743200	PHYSIOLOGY OF NUTRIENTS	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00
11743400	NORMAL NUTRITIONAL REQUIRE & DIETS	0.00	1.50	5.50	7.00	0.00	0.00	0.00	0.00
11743510	ABNORMAL NUTRITIONAL REQUIREMENTS	0.00	5.50	0.00	7.00	0.00	0.00	0.00	0.00
11745000	GROWTH AND DEVELOPMENT	1.50	2.50	3.50	7.00	3.50	7.00	5.50	7.00
11745100	EMBRYOLOGY & PRENATAL PERIOD	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11745200	NEONATAL PERIOD	0.00	2.50	2.50	0.00	0.00	0.00	0.00	0.00
11745300	INFANT GROWTH	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
11745400	CHILDHOOD GROWTH	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
11745500	ADOLESCENT GROWTH	0.00	0.00	0.00	0.00	0.00	4.75	0.00	0.00
11745501	ADULTHOOD	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
11745701	OLD AGE	5.50	0.00	0.00	0.00	0.00	2.50	0.00	0.00
11746001	BIOLOGICAL RHYTHM	0.00	1.50	0.00	0.00	0.00	7.00	0.00	0.00
11746103	HUMAN SEXUALITY	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
11800000	MICROBIOLOGY	0.00	7.00	5.50	9.00	0.00	0.00	0.00	0.00
12100000	CELL BIOLOGY	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00
12120000	CELL PHYSIOLOGY	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
12220000	RADIOLOGY	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
12300000	PHARMACOLOGY	0.00	0.00	5.50	5.50	5.50	7.00	0.00	0.00
12311000	DRUG DOSE-RESPONSE RELATIONSHIPS	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
12320000	DRUG PHYSIOLOGY & CHEMISTRY	0.00	0.00	0.00	9.00	0.00	0.00	5.50	0.00
12321000	DRUG ABSORPTION	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
12322000	DRUG DISTRIBUTION	5.50	5.50	5.50	0.00	0.00	0.00	0.00	0.00
12323000	DRUG EXCRETION	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
12324000	DRUG METABOLISM	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
12330000	ADVERSE EFFECTS OF DRUGS & RESP MECHANISM	0.00	0.00	0.00	9.00	0.00	5.50	0.00	0.00
12331000	DRUG TOXICITY	0.00	5.50	5.50	0.00	0.00	0.00	5.75	7.00
12332000	DRUG IDIOSYNCRASY/& ALLERGY PHARMACOGENET	0.00	5.50	5.50	0.00	0.00	0.00	5.50	0.00
12333000	DRUG RESISTANCE	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
12334000	DRUG TOLERANCE AND PHYSICAL DEPENDENCE	0.00	5.50	5.50	0.00	0.00	0.00	5.50	0.00

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 3
32939000	DRUG SYNERGISM	0.00	5.50	5.50	0.00	0.00	0.00	5.50	0.00
32341000	DRUGS ACTING ON PORETON INVADERS	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00
32341100	ANTIBACTERIAL & ANTIFUNGAL CHEMOTHERAPY	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
32341300	CANCER & VIRUS CHEMOTHERAPY	0.00	5.50	5.50	0.00	0.00	5.50	0.00	0.00
32342000	DRUGS ACTING ON SOMATIC SYSTEM	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00
32342100	DRUGS ACTING ON CARDIOVASCULAR SYSTEM	0.00	5.50	5.50	0.00	0.00	0.00	0.00	0.00
32342400	VITAMINS & NUTRITIONAL AGENTS	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
32342700	DRUGS ACTING ON THE GI TRACT	5.50	1.50	0.00	0.00	0.00	0.00	6.25	0.00
32342800	DRUGS ACTING ON THE NERVOUS SYSTEM	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
32342810	DRUGS ACTING ON AUTONOMIC NERVOUS SYSTEM	0.00	0.00	2.50	0.00	0.00	0.00	0.00	7.00
32342830	DRUGS ACTING ON CENTRAL NERVOUS SYSTEM	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00
32343000	PAIN THEORIES	0.00	0.00	3.50	0.00	0.00	0.00	0.50	5.50
34111000	SOLUTIONS	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00
35213100	ELECTRICAL & MAGNETIC FIELDS	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00
17000000	ATMOSPHERIC SCIENCE	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
32000000	ELECTRONICS TECHNOLOGY	0.00	0.00	0.00	0.00	7.00	2.50	0.00	0.00
33000000	COMPUTER TECHNOLOGY	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
34000000	AUDIO TECHNOLOGY	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
40000000	SOCIAL SCIENCES	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
41000000	BEHAVIORAL SCIENCES	0.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00
41100000	HISTORY OF ANTHROPOLOGY	0.00	0.00	0.00	5.50	0.00	0.00	0.00	0.00
41200000	HISTORY OF PSYCHOLOGY	0.00	0.00	0.00	5.50	0.00	0.00	0.00	0.00
41400000	PERIODGRAPHY	0.00	0.00	0.00	0.00	0.00	0.00	7.00	5.50
41500000	MATH & RES TECH IN BEHAVIORAL SCIENCES	0.00	0.00	7.25	0.00	0.00	0.00	0.00	0.00
41510000	RESEARCH DESIGN TECHNIQUES	0.00	0.00	0.00	0.00	0.00	0.00	7.50	0.50
41511000	CONTINUING STUDY DESIGN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41512000	DESCRIPTIVE STUDY DESIGN	0.00	5.50	0.00	0.00	0.00	0.00	7.00	0.00
41513000	EXPERIMENTAL STUDY DESIGNS	0.00	0.00	0.00	0.00	0.00	0.00	7.50	0.00
41514000	DATA COLLECTION METHODS	0.00	5.50	7.00	7.00	5.25	7.00	6.25	7.00
41515000	SAMPLING METHODS	0.00	5.50	0.00	0.00	0.00	0.00	7.00	7.00
41520000	INTELLIGENCE & ABILITY & THEIR MEASUREMENT	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
41521000	GENERAL INTELLIGENCE & ITS MEASUREMENT	0.00	0.00	0.00	0.00	0.00	7.00	0.00	5.50
41521100	ADULT INTELLIGENCE & ITS MEASUREMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50
41522000	DIFFERENTIAL ABILITIES & APTITUDE/MEASURE	0.00	0.00	5.50	0.00	0.00	0.00	5.50	5.50
41523000	ACHIEVEMENT & ACHIEVEMENT MEASUREMENT	0.00	0.00	5.50	0.00	0.00	0.00	0.00	7.00
41530000	PERSONALITY MEASUREMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00
41531000	PERSONALITY INVENTORIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
41540000	ATTITUDE MEASUREMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41600000	BEHAVIORAL PROCESSES OF THE INDIVIDUAL	0.00	0.00	0.00	0.00	0.00	7.00	0.00	5.50
41610000	SENSATION & PERCEPTION	0.00	0.00	2.50	0.00	0.00	7.00	7.00	0.00
41611000	SENSATION	0.00	0.00	0.00	0.00	0.00	7.00	7.50	5.75
41611100	AUDITORY	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
41611200	VISUAL	0.00	0.00	0.00	0.00	0.00	0.00	5.50	5.75

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 3
41611300	CUTANEOUS (TOUCH)	0.00	1.50	3.50	0.00	0.00	0.00	6.25	3.50
41611400	KINESTHETIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50
41611500	TASTE AND SMELL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50
41612000	PERCEPTION	5.50	5.50	3.50	0.00	0.00	7.00	7.00	3.75
41612200	SELECTION, ATTENTION AND SET	0.00	0.00	0.00	0.00	0.00	0.00	7.00	3.75
41612300	PERCEPTUAL ORGANIZATION	0.00	0.00	0.00	0.00	0.00	0.00	7.00	3.75
41615000	STATE OF AWARENESS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41615100	HYPNOTICALLY INDUCED STATES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41615300	SLEEPING PHENOMENA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41615400	DRUG INDUCED STATES OF AWARENESS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
41615500	TERRITORIAL BEHAVIOR	0.00	1.50	2.50	0.00	0.00	2.50	3.50	3.50
41616000	STRESS THEORIES	0.00	0.00	0.00	0.00	0.00	9.00	8.00	0.00
41620000	LEARNING THEORY	5.50	5.50	5.50	7.00	4.50	7.00	7.00	6.25
41621000	CONDITIONED RESPONSE LEARNING	0.00	0.00	0.00	0.00	0.00	6.25	8.00	0.00
41622000	COGNITIVE LEARNING	0.00	0.00	0.00	7.00	0.00	7.00	6.25	0.00
41623000	MOTIVATIONAL APPROACHES TO LEARNING	0.00	0.00	0.00	7.00	0.00	5.50	6.25	3.50
41624000	VERBAL LEARNING	0.00	0.00	0.00	0.00	0.00	5.50	8.00	0.00
41625000	PERCEPTUAL MOTOR LEARNING	0.00	0.00	0.00	7.00	0.00	7.00	8.00	0.00
41626000	RETENTION & FORGETTING	0.00	0.00	0.00	0.00	0.00	7.00	8.00	0.00
41627000	TRANSFER OF TRAINING	0.00	0.00	0.00	0.00	0.00	6.25	3.50	0.00
41630000	THOUGHT PROCESSES	2.50	5.50	7.00	6.25	0.00	0.00	8.00	0.00
41640000	MOTIVATION	0.00	0.00	3.50	0.00	5.50	7.00	8.00	0.00
41641000	AUTOKINIC DRIVES	0.00	0.00	0.00	0.00	0.00	9.50	8.00	0.00
41643000	LEARNED BASES OF MOTIVATION	0.00	5.50	5.50	0.00	0.00	6.75	8.00	5.25
41650000	EMOTIONS	3.50	3.00	3.50	4.50	3.50	7.00	7.00	0.00
41660000	DEV & GROWTH OF BEH PROCESS OF INDIV	0.00	0.00	0.00	5.25	0.00	7.00	8.00	3.50
41661000	MOTOR DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	5.50	8.00	0.00
41662000	PERCEPTUAL DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41663000	COGNITIVE DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	5.50	8.00	0.00
41664000	LANGUAGE DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41665000	EMOTIONAL (AFFECTIVE) DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	5.50	8.00	0.00
41666000	STAGES OF DEV OF BEHAV PROC OF INDIV	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00
41666100	INFANT BEHAVIORAL DEVELOPMENT	0.00	3.50	3.50	0.00	0.00	0.00	0.00	0.00
41666110	INFANT & CHILD CARE	0.00	5.50	5.50	0.00	0.00	0.00	7.00	0.00
41666300	ADOLESCENT BEHAVIORAL DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	7.00	7.00	0.00
41666400	YOUNG ADULTHOOD BEHAVIORAL DEVELOPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41666500	ADULT BEHAVIORAL DEVELOPMENT	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
41670000	PERSONALITY THEORY	0.00	0.00	7.00	0.00	0.00	9.50	0.00	0.00
41680000	ATTITUDE THEORY	0.00	6.00	6.25	7.00	0.00	6.25	9.75	3.50
41690000	PSYCHOPATHOLOGY	0.00	5.50	7.00	0.00	0.00	0.00	0.00	0.00
41692000	ORGANIC BRAIN SYNDROMES	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41693000	PERS DIS & NON-PSYCHOTIC MENTAL DIS	0.00	5.50	7.00	0.00	0.00	0.00	0.00	0.00
41696000	PSYCHOSOMATIC DISORDERS	0.00	0.00	0.00	0.00	0.00	0.00	8.50	0.00

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 1
41697000	TRANSIENT SITUATIONAL DISTURBANCES	0.00	0.00	0.00	0.00	0.00	5.00	6.25	0.00
41710000	PSYCHOTHERAPY & COUNSELING	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
41711000	INDIV PSYCHOTHERAPY & COUNSELING	0.00	0.00	7.00	0.00	0.00	0.00	9.50	9.75
41712000	GROUP PSYCHOTHERAPY & COUNSELING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41714000	RECREATIONAL THERAPY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
41720000	ORGANIC THERAPY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41000000	SOCIAL PROCESSES & SOCIAL STRUCTURES	0.00	0.00	9.00	0.00	0.00	7.00	7.50	9.00
41010000	CULTURE	0.00	0.00	3.50	3.50	3.50	7.00	0.00	0.00
41011000	TECHNOLOGIC/& MATERIAL ASPECTS OF CULTURE	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00
41013000	SCIENTIFIC ACHIEVEMENTS	0.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00
41014000	BELIEF SYSTEMS	0.00	5.50	0.00	0.00	0.00	4.50	0.00	0.00
41015000	ECONOMIC ORGANIZATION	0.00	5.50	0.00	0.00	0.00	4.50	5.50	0.00
41016000	PERSONALITY & ATTITUDINAL MANIFEST OF CULT	4.00	3.50	1.50	0.00	0.00	2.50	3.00	3.50
41019000	SOCIAL ORGANIZATION	0.00	0.00	6.75	7.00	7.00	4.50	5.50	0.00
41020000	INTERPERSONAL PROCESSES	5.50	5.50	4.50	3.50	3.50	7.50	6.25	6.25
41030000	SOCIAL PERCEPTION	2.50	1.50	4.00	0.00	7.00	5.50	5.50	0.00
41040000	SOCIAL GROUPS AND PROCESSES	0.00	7.00	5.50	0.00	6.25	5.50	5.50	5.50
41041000	SMALL GROUP BEHAVIOR	5.50	5.50	5.50	4.50	5.50	5.50	5.50	5.50
41042000	LARGE GROUP BEHAVIOR	0.00	0.00	0.00	0.00	5.50	0.00	0.00	0.00
41043000	LEADERSHIP	0.00	5.50	5.50	3.50	4.50	5.50	5.50	5.50
41043100	PARLIAMENTARY PROCEDURE	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
41044000	DISTRIBUTION & USE OF POWER	0.00	5.50	5.50	0.00	5.50	5.50	4.50	7.00
41045000	COMMUNICATION PATTERNS IN GROUPS	5.50	5.50	6.25	4.50	5.50	7.00	7.00	0.00
41046000	FUNCTIONAL ROLES OF GROUP MEMBERS	0.00	5.50	5.50	0.00	5.50	5.50	5.50	6.25
41047000	GROUP BOUNDARIES	0.00	5.50	5.50	0.00	5.50	6.25	6.00	0.00
41048000	REFERENCE GROUP EFFECT ON BEHAVIOR	0.00	5.50	0.00	0.00	0.00	5.50	0.00	0.00
41049000	GROUP DECISION-MAKING	0.00	5.50	6.75	0.00	0.00	6.25	0.00	7.00
41051000	GOAL-SETTING	0.00	4.00	0.00	0.00	5.50	5.50	0.00	7.00
41052000	GROUP COHESIVENESS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
41053000	GROUP EFFECTIVENESS	0.00	4.00	6.25	0.00	5.50	5.50	5.50	7.00
41060000	INTER-GROUP PROCESSES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.25
41061000	GROUP DIFFERENCES IN SOCIAL ATT,ETC.	0.00	0.00	0.00	0.00	5.50	4.50	0.00	0.00
41062000	CONFLICT THEORY	0.00	5.50	4.75	0.00	5.50	5.50	5.50	5.50
41063000	SOCIAL GROUPS & STRUCT/BASIS OF STRAT	0.00	0.00	7.00	0.00	0.00	5.50	4.50	0.00
41063300	RACE, ETHNIC GROUPS/MINORITY STRAT	0.00	0.00	5.50	0.00	0.00	0.00	5.50	0.00
41063350	SPECIAL PROBLEMS OF STRAT IN U.S.	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
41070000	SOCIAL CHANGE	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00
41071100	EVOLUTIONARY SOCIAL CHANGE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41071200	REVOLUTIONARY SOCIAL CHANGE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41071300	TECHNOLOGY AND SOCIAL CHANGE	0.00	0.00	0.00	0.00	0.00	2.50	5.50	0.00
41072000	SOCIAL DISORGANIZATION	0.00	0.00	0.00	0.00	0.00	7.00	5.50	5.50
41080000	INSTITUTIONAL STRUCTURES & SOCIAL PROCESSES	0.00	0.00	6.25	0.00	5.50	0.00	0.00	0.00
41081000	SOCIALIZATION PROCESSES	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE/SKILL NO.	KNOWLEDGE/SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 3
41002000	MASS COMMUNICATION PROCESSES & PUBLIC OPINION	0.00	0.00	6.25	0.00	0.00	0.00	0.00	0.00
41003000	COMMUNITY GROUPS/CONTROL/ORGANIZATION	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00
41004100	SOCIAL SERVICE FOR PCOP/INDIGENT/ADMIN/POLICY	0.00	0.00	0.00	0.00	5.50	2.50	0.00	0.00
41004200	HEALTH SERVICE ADMIN & POLICY	0.00	2.50	1.50	3.50	3.00	5.50	5.50	3.50
41004300	EDUC & TRAIN SERVICE ADMIN & POLICY	0.00	0.00	4.75	5.50	0.00	5.50	5.50	4.50
41004400	EMPLOYMENT SERVICE ADMINISTRATION/POLICY	0.00	0.00	0.00	0.00	0.00	6.25	5.50	0.00
41004500	LEGAL SERVICES ADMINISTRATION/POLICY	0.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00
41004800	SPEC SERVIC FOR AGED/INFIRM ADMIN/POLICY	0.00	0.00	0.00	0.00	5.50	0.00	0.00	0.00
41005100	SOCIAL AGENCIES	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
41006000	ORGANIZATIONAL THEORY	0.00	0.00	6.25	5.50	0.00	5.50	7.00	7.00
41006100	FORMAL AND INFORMAL ORGANIZATION	0.00	2.50	9.00	5.50	0.00	6.75	5.50	6.25
41006200	ORGANIZATIONAL CO-ORDINATION	0.00	5.50	5.50	0.00	5.50	5.50	5.50	0.00
41006300	ORGANIZATIONAL DESIGN	0.00	0.50	0.00	5.50	0.00	6.75	5.50	5.50
41006400	ORGANIZATIONAL CHANGE	0.00	0.00	7.25	0.00	0.00	5.50	0.00	5.50
42000000	EDUCATION	0.00	9.00	7.00	7.50	7.00	7.00	7.00	7.00
42100000	EDUCATIONAL FOUNDATIONS	0.00	0.00	0.00	5.50	7.00	0.00	0.00	7.00
42110000	HISTORY OF EDUCATION	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
42120000	EDUCATIONAL BEHAVIORAL SCIENCES	0.00	0.00	0.00	0.00	0.00	5.50	0.00	7.00
42121000	EDUCATIONAL BEHAVIORAL PROCESSES	0.00	0.00	7.00	0.00	5.50	5.50	7.00	7.00
42122000	EDUCATIONAL SOCIAL PROCESSES	0.00	0.00	7.00	0.00	0.00	5.50	0.00	7.00
42200000	CURRICULUM DESIGN	0.00	7.25	0.00	0.00	0.00	0.00	7.50	0.00
42300000	SYSTEMS OF CONTENT PRESENTATION	0.00	5.50	6.25	0.00	7.00	7.00	5.50	0.50
42400000	EDUCATIONAL ADMINISTRATION	0.00	0.00	7.00	7.00	7.00	7.50	7.00	7.00
42500000	STAGES OF EDUCATION	0.00	0.00	3.50	0.00	0.00	2.50	5.50	7.00
42520000	ELEMENTARY SCHOOL EDUCATION	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42530000	SECONDARY SCHOOL EDUCATION	1.50	3.50	1.50	0.00	0.00	0.00	0.00	0.00
42540000	GENERAL ADULT EDUCATION	4.00	1.50	2.00	1.50	5.50	3.50	7.00	7.00
42550000	COLLEGE LEVEL EDUCATION	0.00	0.00	3.00	6.25	0.00	7.00	7.00	0.00
42600000	SPECIALIZED EDUCATION	0.00	0.00	3.50	0.00	0.00	5.50	5.50	7.00
42610000	VOCATIONAL EDUCATION	2.50	2.50	3.25	2.50	3.50	7.00	5.50	5.25
42620000	TECHNICAL EDUCATION	0.00	0.00	3.50	3.50	3.50	6.25	5.50	7.00
42630000	PROFESSIONAL ED & GRADUATE ED	5.50	5.50	5.50	5.50	3.50	7.00	5.50	7.00
42631000	GRADUATE EDUCATION	0.00	0.00	7.00	5.50	0.00	7.00	5.50	5.25
42700000	SPECIAL EDUCATION	0.00	0.00	0.00	0.00	0.00	7.00	0.00	5.50
42710000	EDUC OF BLIND/VISUALLY IMPAIRED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42720000	EDUC OF DEAF/HEARING IMPAIRED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42730000	EDUC OF PHYSICALLY HANDICAPPED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42740000	EDUC OF MENTALLY RETARDED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42750000	EDUC OF INTELLECTUALLY GIFTED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42760000	EDUC OF EMOTIONALLY DISTURBED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42770000	EDUC OF NEUROLOGICALLY IMPAIRED	0.00	0.00	0.00	0.00	0.00	5.50	0.00	5.50
42780000	REMEDIAL EDUC FOR CHILDREN/ADULTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.75
42800000	EDUCATION GUIDANCE								

Table 1.0 (continued)

HUPSTHO
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 1
43000000	ECONOMICS	0.00	0.00	5.50	0.00	5.50	7.25	0.00	5.50
43500000	ECONOMICS GROWTH/DEVELOP/PLANNING	0.00	0.00	0.00	5.50	0.00	0.00	0.00	0.00
43600000	LABOR/MANPOWER/HUMAN RESOURCES	0.00	5.50	5.50	9.00	0.00	5.50	5.50	6.25
43700000	CONSUMER ECONOMICS	0.00	0.00	0.00	0.00	0.00	2.50	5.50	0.00
43800000	REGIONAL & URBAN ECONOMICS	0.00	0.00	3.50	0.00	0.00	0.00	5.50	0.00
44140000	MANAGERIAL ECONOMICS	0.00	0.00	5.50	0.00	0.00	5.50	0.00	7.00
44141000	MARKETING AND FORECASTING	0.00	5.50	0.00	0.00	0.00	3.50	0.00	0.00
44142000	COST ANALYSIS	5.50	5.50	3.50	7.00	3.50	5.50	5.50	6.25
44143000	BUSINESS AND SOCIAL ACCOUNTING	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
45000000	POLITICAL SCIENCES	0.00	0.00	0.00	0.00	0.00	5.50	0.00	3.50
45200000	SYSTEMIC ANALYSIS (POLITICAL SYSTEMS)	0.00	0.00	0.00	0.00	0.00	9.00	4.50	5.25
45210000	INTEREST ARTICULATION	0.00	0.00	0.00	0.00	0.00	5.50	0.00	7.00
45230000	RULE-MAKING AND LEGISLATION	0.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00
45240000	RULE-APPLICATION	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00
45250000	RULE-ADJUDICATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45260000	COMMUNICATION	0.00	5.50	5.50	0.00	0.00	5.50	3.50	3.50
45300000	INSTITUTIONAL POLITICAL ANALYSIS	0.00	0.00	4.50	9.00	3.50	7.00	5.50	7.00
91000000	MATHEMATICS	0.00	0.00	7.00	0.00	5.50	0.00	7.00	5.50
91100000	FOUNDATIONS & MATHEMATICS	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00
91110000	MATHEMATICAL LOGIC	0.00	0.00	5.50	2.50	0.00	0.00	0.00	0.00
91200000	ALGEBRA	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
91223610	GRAPH THEORY	0.00	0.00	0.00	0.00	0.00	0.00	7.00	7.00
91223620	NETWORK FLOWS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
91300000	MATHEMATICAL ANALYSIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
92000000	PROBABILITY & STATISTICS	0.00	0.00	7.00	0.00	0.00	2.50	6.25	7.00
92100000	PROBABILITY & STOCHASTIC PROCESSES	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
92120000	SAMPLING DISTRIBUTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92150000	APPLIED PROBABILITY & STOCHASTIC PROCESS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50
92200000	STATISTICS	0.00	0.00	0.00	5.50	0.00	0.00	0.50	5.50
92210000	FOUNDATIONS OF STATISTICS	0.00	0.00	9.00	0.00	0.00	9.00	9.00	9.00
92211000	LOGIC OF INDUCTIVE INFERENCE	0.00	0.00	3.50	0.00	0.00	0.50	9.00	0.00
92212000	MEASUREMENT	0.00	0.00	0.00	0.00	0.00	9.00	0.00	7.00
92220000	DESCRIPTIVE STATISTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00
92230000	STATISTICAL DESIGN OF EXPERIMENTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92240000	SAMPLING THEORY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.50
92250000	STATISTICAL THEORY OF RELATIONSHIPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.75
92252000	CORRELATION & REGRESSION ANALYSIS	0.00	0.00	0.00	0.00	0.00	6.25	0.00	5.50
92253000	FACTOR ANALYSIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50
92260000	STATISTICAL INFERENCE	0.00	0.00	0.00	0.00	5.50	0.00	0.00	6.75
92261110	PARAMETRIC/FIXED SAMPLE SIZE ESTIMATION	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00
92262000	HYPOTHESIS TESTING	0.00	0.00	0.00	0.00	0.00	6.25	7.50	9.00
92262100	FIXED SAMPLE SIZE IN HYPOTHESIS TESTING	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00
93100000	CYBERNETICS	0.00	0.00	5.50	0.00	0.00	7.00	5.50	6.50

Table 1.0 (continued)

NURSING
COMPARATIVE OVERVIEW
OF SKILL/KNOWLEDGE REQUIREMENTS

MEDIAN VALUES

KNOWLEDGE SKILL NO.	KNOWLEDGE SKILL NAME	CLUSTER 1 LEVEL 1	CLUSTER 1 LEVEL 2	CLUSTER 1 LEVEL 3	CLUSTER 1 LEVEL 4	CLUSTER 2 LEVEL 1	CLUSTER 2 LEVEL 2	CLUSTER 2 LEVEL 3	CLUSTER 3 LEVEL 3
93110000	FOUNDATIONS OF CYBERNETICS	0.00	0.00	0.00	0.00	0.00	0.00	6.25	7.00
93120000	GENERAL SYSTEMS THEORY	0.00	0.00	3.50	0.00	0.00	5.50	5.50	4.50
93130000	CONTROL THEORY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93140000	COMMUNICATION THEORY	2.00	2.50	3.50	6.75	5.50	5.50	7.00	6.50
93150000	INFORMATION THEORY	5.50	4.25	4.50	0.00	5.50	5.50	7.00	6.75
93200000	COMPUTER SCIENCES	0.00	0.00	0.00	5.50	0.00	6.25	6.25	4.50
93210000	COMPUTER PROGRAMMING	0.00	0.00	0.00	0.00	0.00	0.00	5.50	5.50
93211000	SYSTEMS PROGRAMMING	0.00	0.00	0.00	0.00	0.00	0.00	5.50	0.00
61000000	PHILOSOPHY	0.00	0.00	7.00	0.00	7.50	7.00	7.00	7.00
61100000	SYSTEMATIC PHILOSOPHY	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00
61110000	LOGIC	2.50	5.50	5.50	0.00	5.50	5.50	7.00	0.00
61120000	ETHICS	0.00	5.50	0.50	0.00	0.50	5.50	5.50	9.00
65000000	THE ARTS	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
65600000	WRITING	5.50	9.00	5.50	5.50	6.25	5.50	5.50	7.00
35620000	MECHANICS OF WRITING ENGLISH	5.50	2.50	2.50	4.00	5.50	5.50	5.50	7.00
65630000	TECHNIQUES OF WRITING	5.50	0.00	5.50	0.00	5.50	5.50	7.50	7.00
65638000	VARIATION OF LANGUAGE	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
65640000	FORMS OF WRITING	5.50	7.25	5.50	7.00	7.00	7.00	7.00	7.00
65642000	PROSE	5.50	5.50	3.50	4.50	4.25	5.50	7.00	7.00
67000000	LAW	0.00	3.50	5.25	0.00	0.00	0.50	2.50	5.50
67200000	LEGISLATION	0.00	5.75	7.50	0.00	0.00	0.50	1.50	0.00
67210000	REGULATORY LAW	0.00	0.00	0.00	0.00	0.00	7.00	5.50	0.00
67300000	INTERPERSONAL LAW	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
67320000	CONTRACTS	0.00	9.00	5.50	0.00	0.00	5.50	5.50	5.50
67350000	BUSINESS ORGANIZATIONAL RELATIONSHIPS	0.00	0.00	0.00	0.00	0.00	5.50	5.00	0.00
67340000	LABOR LAW	0.00	0.00	0.00	2.50	0.00	5.25	5.50	0.00
67412000	TORTS - AGENCY	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
67413000	TORTS - ADMIRALTY	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
67420000	DAMAGES	0.00	0.00	5.50	0.00	0.00	9.00	0.00	0.00
67422000	EQUITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50
67500000	STATE-INDIVIDUAL LAW	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00
67510000	INDIVIDUAL CONSTITUTIONAL RIGHTS LAW	0.00	5.50	5.50	0.00	6.25	0.50	5.50	5.50
67511000	BILL OF RIGHTS	0.00	0.00	0.00	0.00	7.00	7.00	0.00	0.00
67513000	ADMINISTRATIVE PROCEDURE	0.00	5.50	5.50	0.00	7.00	0.00	5.50	0.00
69100000	LINGUISTICS	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
71000000	LIBRARY SCIENCE	0.00	0.00	0.00	5.50	0.00	5.50	5.50	5.50
73000000	NURSING	7.00	7.00	6.25	0.00	9.00	9.00	0.00	9.00
73100100	HISTORY OF NURSING	0.00	0.00	7.00	0.00	0.00	0.00	0.00	7.00
73200100	NURSING STANDARDS	0.00	7.00	7.00	6.25	7.00	0.50	0.00	7.00
73300100	NURSING THEORY	0.00	5.50	6.25	0.00	0.00	9.00	0.00	0.00

Influencing Factors. A discussion of the factors influencing the resultant sequence and grouping of tasks is in order here before further analyzing the content of each cluster/level.

By nature of the statistical procedures of the delineation methodology, the rank position of any given task is dependent upon a variety of possible conditions:

> Consistently high scale values are assigned to requirements for skill (i.e., depth of skill);
>
> Consistently high scale values are assigned to requirements for knowledge (i.e., depth of knowledge);
>
> Large numbers of knowledge categories are assessed to be required (i.e., breadth of knowledge);
>
> A majority of 17 possible skills are assessed to be required (i.e., breadth of skills).

The converse of each of these conditions and/or any combination thereof influences a task's overall rank score and, therefore, its relationship to every other nursing activity. For example, a task which ranked very high may not require as many knowledge categories as a lower ranked task but the categories required for the higher task could be assessed at a 9.0 scale value (i.e., the highest possible score) and ultimately secure its higher rank position.

Likewise, the determination of levels within each cluster is influenced by its relatively high or low scale values and/or large or small numbers of skills/knowledge categories. The weighted comparison of scale values used to determine levels of complexity is among tasks only within a given cluster.

The obvious conclusion to be drawn after analyzing these influencing factors is that the impact of the overall number of tasks identified becomes a variable in the study procedures. It is not so much the actual number of tasks that is critical to accepting the final results as valid, but whether or not the identified tasks are considered to be comprehensively descriptive of essential nursing activities. Until the task list is considered complete the concomitant clusters and levels may vary. Therefore, the acceptability of the final levels of practice is directly dependent upon reliably encompassing tasks, task descriptions and skill/knowledge identifications.

Conceptual Framework for Interpretation. It is appropriate at this point in the discussion to present the framework (Table 2) which, in the end, was considered the most "ideal" conceptualization to assure comprehensive task identification in the future.

TABLE 2

Suggested Conceptual Framework*
to Assess Comprehensiveness
of Nursing Task List

Domain			
CLINICAL	RESEARCH	EDUCATION	ADMINISTRATION
Assessment	Problem Identification	Assessment	Assessment
Diagnosis	Hypothesis		
Planning	Plan/Method	Planning	Planning
Implementation	Implementation	Implementation	Implementation
	Analysis		
Evaluation	Evaluation	Evaluation	Evaluation

*Each process in the various domains should reflect the cognitive, psychomotor and affective aspects of nursing conducted in primary, secondary and tertiary care settings, involving individuals and groups throughout the age continuum.

Further, because of the magnitude of the clinical domain the framework presented in Table 3 was suggested to facilitate further comprehensive analysis.

TABLE 3

Suggested Conceptual Framework
for Analysis of the Clinical Domain

Process*	Clinical Domain		
	Independent Tasks	Dependent Tasks	Interdependent Tasks
	P^1 M^2 P^3	P^1 M^2 P^3	P^1 M^2 P^3
Assessment			
Diagnosis			
Planning			
Implementation			
Evaluation			

[1] Prevention
[2] Maintenance
[3] Promotion

*Each process should reflect the cognitive, psychomotor and affective aspects of each category conducted in primary secondary and tertiary care settings, involving the nursing care needs of individuals and groups throughout the age continuum.

Added to this clinical/practice framework needs to be some type of systems approach. If human body systems were applied, all tasks would be identified concerned with preventing illness, maintaining and promoting health for example, of the cardiovascular system by

implementing each component of the nursing process through independent, dependent or interdependent judgement. These judgement classifications refer respectively to self-initiated tasks, tasks performed only as a result of their being delegated by another person and those initiated through group process (i.e., the health team). Likewise, a systems approach might utilize human needs, specialty areas or an integrated design of bio-psycho-socio functions.

While the selection of the overlying systems may be a most controversial nursing issue, the framework presented in Tables 2 and 3 allowed an instructive analysis of the existing results. In light of these frames of reference it became even more apparent that the pilot task list was not complete.

Content Analysis. A content analysis of the three clusters derived from existing task data is shown in Tables 4, 5, and 6.

TABLE 4

Cluster One - Content Analysis

Cluster 1			
Level 1	Level 2	Level 3	Level 4
Clinical -Implementation	Clinical -Planning -Implementation -Assessment -Client Teaching	Education -Planning -Program Maintenance	Education -Course Development/Maintenance
		Clinical -Implementation -Assessment	Clinical -Planning
		Research -Planning	Counseling
		Decision/Policy Making	Job Descriptions
		Communication -Group -Individual -Oral -Written	

TABLE 5

Cluster Two - Content Analysis

Level 1	Level 2	Level 3
Professional Development -Planning -Implementation	Professional Regulation	Education -Philosophy/ Curriculum Development -Evaluation -Coordination
Human Rights Protection	Clinical -Assessment -Maintenance -Crisis Management	
Clinical -Planning -Implementation -Assessment	Education -Planning -Evaluation	Administration
Research -Planning	Administration -Assessment -Organization -Maintenance	Research -Planning -Analysis
Administration -Planning	Research -Planning -Data Collection (implementation) -Information Dissemination	Clinical -Planning -Management

TABLE 6

Cluster Three - Content Analysis

Cluster 3
Evaluation -Education -Service -Administration -Reporting

Observations. After scrutinizing the content contained in each level, significant trends are discernable. However, it is evident there are major "gaps" in the representation from each domain.

First, only clinical tasks are found in Cluster 1 - Level 1; more importantly they predominantly focus on "implementation" processes (see Table 2). More specifically the tasks are generally initiated through judgement dependent upon delegation from another person and represent a maintenance function. In Cluster 1 - Level 2, although also dominated by clinical tasks, it can be distinguished from Level 1 by the complexity involved in planning and assessing clinical activities in addition to the actual implementation of tasks.

Likewise, with the education domain, planning and development tasks precede the evaluation component first found in Cluster 2 - Level 2. However, the implementation component of education is seemingly missing.

Professional development processes and professional regulation do not appear until Cluster 2. Generally, tasks from the administration domain are significantly complex enough to not appear until Cluster 2.

Cluster 3, which represents the most complex of existing tasks, addresses evaluation in the administration, clinical, and education domains. Upon further analysis these tasks show their uniqueness by the fashion in which they integrate the products (outputs) of many other tasks; an indication that other such tasks are missing.

Implications. The results of the Nursing Delineation Pilot Study comprise a critical preliminary analysis of the nursing profession. The

purpose of the study and the objectivity of the methodology support the development of the data base for a well articulated system of nursing. A valid definition of nursing is a fundamental component of a system design that can be understood and effectively utilized by practitioners, educators and employers in order to provide health care of quality for health care consumers.

Significant trends in task data are observable relating to varying degrees of skill/knowledge complexity. The requirement for psychomotor skills is more concentrated in lower level tasks and less apparent in some other more complex tasks requiring a greater breadth of knowledge. However, the demarcation of distinct levels of nursing practice is contingent upon more comprehensive task data being developed through refinement and expansion of existing results by a more representative task force.

The trends observed from the content analysis of the clusters are not based on sufficiently comprehensive task data and may be modified as new tasks are identified. The reliability of cluster interpretation is contingent upon such comprehensiveness and directly precludes the task force's ability to draw any formal conclusions at this time. However, one major conclusion is that even given the limited results to date, logical trends were able to be gleaned from the data, thereby proving the validity of the methodology, making the study a successful pilot test.

Consequently, the task force believes the issue of role delineation continues to be a pertinent problem in nursing and has recommended that the delineation study be continued. The critical implication is that a viable solution to this dilemma is now available to the nursing profession.

Conclusions

Although logical trends in task data and skill/knowledge requirements are evident, the interpretation of the clustering results is directly dependent upon the comprehensiveness of the initial task list. The study task force members recognize the many limitations of the results that preclude their ability to draw any formal conclusions at this time regarding the delineation of the nursing profession.

However, premised on the obvious trends and despite the limitations of the task data, the methodology has been proven valid and reliable. This further substantiates that a viable solution is available to address the critical issue of role delineation in nursing. With the significant amount of ground work accomplished by the task force, the study should be continued and refined in full cognizance of the recommendations found in this report. In recommending further study, the task force has taken the initiative to search for grant funds and establish an organizational base for continuing a statewide approach.

Methodologic Modifications

(1) Conceptual Framework. The first step of the delineation is concerned with developing a conceptual framework from which to develop a comprehensive listing of nursing tasks. Upon reflection of the purpose and actual use of the methodology, the conceptualizations presented in Tables 2 and 3 were recommended. As discussed in Volume 2: Report of Results, the acceptability of the original task list determines the outcome validity of the delineation study.

(2) Research Tools. The Knowledge Classification System (KCS) presented Volume 1 proved extremely useful in conducting the pilot study. However, it also was the cause of great concern for task force members because of its seemingly biased knowledge taxonomy. At no point did the task force members feel they were selecting categories for knowledge requirements with any great reliability. This has proven, in part, to be a function of individual versus reliable group

interpretation of the parameters of each knowledge category. However, the task force recommended that either the KCS be expanded or a new system be designed through a reliable means. Too often participants felt they were having to force fit their ideas of knowledge into the pre-existing categorizations.

(3) Process. The major recommendation pertaining to the overall research process was that more group meetings and group process should be utilized to assure the best possible results. Constant attention to the comprehensiveness of the task data through more concentrated group process could fundamentally secure the validity of the final results and consequently a more reliable interpretation of nursing. (A critique by the task force of the many strengths and limitations of the methodology is presented in Volume 1: Methods Report.)

Inherent in the more intensive utilization of aggregate activities is the comprehensive make-up of the task force. The membership should again be carefully selected but represent a broader scope of nursing, especially of the clinical domain. However, the active members of the pilot study task force should be amoung those invited to participate and encouraged to continue in the study. The recommendation to continue and conduct a full delineation study was premised on the support voiced by the current membership and their indepth knowledge of the delineation research model. Without their continued involvement a significantly longer period of time will undoubtedly be required to orient new members to the methodology.

Future Actions

A significant amount of personal and professional time and expertise has already been devoted to completing the Nursing Delineation Pilot Study. Although the success of the study represents an accomplishment of great importance to the nursing profession, the results are less than comprehensive.

After one year of intense involvement in implementing the pilot study and, thereby, after informed evaluation of its methodolical assumptions and procedures, the task force made the following recommendations for future actions:

(1) THE RESULTS OF THE PILOT STUDY (AS PRESENTED IN VOLUME 2 - 1982) SHOULD NOT BE CONSIDERED COMPREHENSIVELY REPRESENTATIVE OF NURSING AND A FULL STUDY SHOULD BE CONDUCTED WITH A BROADER, MORE ENCOMPASSING TASK FORCE MEMBERSHIP.

Discussion: The nursing tasks identified in the pilot study are highly selective. The selectivity is a function of the background of the people writing the tasks and the time limitations of the study (both the time participants could devote to the project and the one-year timetable allotted to complete the project.) The task force believes that analysis of the affective domain in nursing can be systematically addressed through the application of this research methodology but recognizes that additional work and time is needed to delineate the affective, intangible dimensions inherent in nursing (e.g., caring, concern, compassion.)

The various types of clinical expertise were not adequately represented in the original task force members; therefore, the group should be expanded to specifically address the missing areas (e.g., nurse anesthetist, nurse midwife, family nurse practitioner, pediatrics.)

(2) EXISTING TASK DESCRIPTIONS FROM EACH OF THE AREAS (i.e., ADMINISTRATION, EDUCATION, PRACTICE, RESEARCH) SHOULD BE COMPARED FOR THEIR SCOPE AND APPLICATION OF TASK CRITERIA AND BE TESTED FOR INTERNAL RELIABILITY AMONG THE FOUR AREAS.

Discussion. Concentrated group process is more feasible for this type of comparison now that preliminary results are available from all the task groups. Focus needs to be placed on the task rather than on the performer of the task so that tasks are not defined on the basis of what, for example, a nurse educator does but rather on what a nurse does when teaching.

(3) A FULL STUDY SHOULD BE CONDUCTED AND ORGANIZED ACCORDING TO THE PROCESSES OF ADMINISTRATION, EDUCATION, PRACTICE, AND RESEARCH USING THE CONCEPTUAL FRAMEWORK SUGGESTED IN THIS REPORT.

Discussion: A study of this magnitude would probably require at least 3 years to complete and external funding sources would be necessary. At the beginning of the study it would be instrumental to reach concensus about:

A) the scope of the study implicating task force membership make-up and size to accommodate attrition,

B) a conceptual framework for each group,

C) the scope of application of the term "task",

D) parameters of competent care versus optimal care,

E) how attitudes and values are to be expressed,

F) operational definitions of terms and selected activities,

G) the expansion or revision of the Knowledge Classification System and review of skill and knowledge scales,

H) scheduling blocks of time for more concentrated group work, and,

I) sufficient time to effectively select and utilize external evaluators.

(4) THE COLLEGIAL INTERACTION OF THE TASK FORCE SHOULD REMAIN IN EXISTENCE AS A STATEWIDE FORUM WITH REPRESENTATION OF THE MULTIPLE AREAS OF SPECIALIZATION.

Discussion: The camaraderie fostered by the implementation of the Nursing Delineation Pilot Study has been invaluable to the continued progress of nursing in Kentucky. The task force has proposed a collobrative approach to initiate and organize the implementation of a full study. Subsequently, in September 1982 the following memorandum was submitted to the Council on Higher Education Subcommittee on Nursing Education, under whose direction the pilot study was conducted.

The Nursing Delineation Study Committee of the Council on Higher Education feels that the one year of work on nursing task description and scaling has been a pilot study only. Since this is the last year of the Kellogg Foundation grant, the committee realizes that additional grant sources must be investigated.

The committee would propose an inter-university approach to the management of a new grant. A university setting is sought because of the research mission of the institution and the availability of resources required by the study.

The new grant should extend for at least three years to allow the researchers to develop a more comprehensive task list, to re-define the skill categories, to re-classify the knowledge disciplines and to use group process to re-scale all tasks. When these activities have been completed and computerized, the committee will be better able to analyze the data with a more definitive grouping of tasks according to skills and knowledge needed for performance.

Grouping of the tasks should occur which will allow nursing to define skills and knowledge of various levels of nursing.

Hopefully, many members of the original committee would be willing to serve. However new members must be also sought to extend the representation of the committee to all levels of nursing.

Consensus was reached by the subcommittee to recommend review and refinement of the delineation study. However, it was also recommended that an appropriately representative statewide membership be involved in the "inter-institutional approach" to future activities.

(5) THE IMPLICATIONS FROM ANY RESULTS OR RECOMMENDATIONS THAT MAY ARISE FROM THE COMPLETION OF A FULL DELINEATION STUDY SHOULD BE BORNE IN MIND IN RELATION TO OTHER COMPONENTS OF STATEWIDE PLANNING.

Discussion: The pilot study represents one segment of a project to develop a coordinated statewide system of nursing education. Completion of a full delineation study by a more comprehensive task force may have potentially significant implications for other components of the system such as manpower use and distribution, licensure, curriculum development and program planning. Where appropriate, such impact may serve a verification function for other issues inherent in the system design.

3 COMMENTS FROM TASK FORCE MEMBERS

For the purposes of this report task force members were asked to volunteer their personal comments about their involvement in the 1981-82 pilot delineation study. What follows are some of their thoughts concerning the experience.

> This has been one of the most challenging professional projects in which I have been involved. Nurses from a variety of backgrounds from all over the state truly worked together to accomplish a common goal. While each of us brought our own perspective we found few gaps between practice, education, research and administration. We argued and examined vigorously but we were always able to reach consensus. We exchanged ideas both formally in the work of the project and informally throughout the year.
>
> Our major constraint and frustration was time. In the beginning most of us showed some skepticism that nursing could be delineated by this methodology. At the conclusion of our pilot, I think we all believe it can be done. Even though it is a monumental task we are determined to try to (complete a full study).
>
> Nursing has never really decided whether or not it is a practice profession or what the entry to practice should be. Ramifications of the full study are endless. We will be able to determine if there are levels of practice and what belongs in each level. We will have the knowledge base, skills and

curricular objectives for each level. We will have a sound basis for types of educational preparation, differentiation of licensure and basis for different types of licensure examinations. The results can differentiate job descriptions, levels of practice and compensation. The results could provide a basis for determining cost and reimbursement of nursing care. The data can even provide sound basis for recruitment, counseling and even determining what skills are physically necessary to the practice of nursing. (Section 504 of the Rehabilitation Act of 1973).

There probably are many more uses for the results that can be obtained by lengthening and continuing the study. We tried the methodology, we know the problems but we know it can and must be done. I, for one, am committed to making this full study possible. It is the "now".

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This study was a good pilot to identify the scope of nursing and the need for a more indepth study.

I learned about the complexity of nursing tasks and the broad background of knowledge and skill required in nursing.

I believe the results of the full study will give non-nurses a better understanding of what nurses do and the complexity of the profession. They will assist schools preparing nurses to arrange curriculums to help nurses be prepared for future practice. The comprehensive results can also be used as a rational basis for recruitment and hiring at the various levels of nursing.

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As an aspiring graduate student in 1978, one of the first written assignments with which I was charged was a review of the question of basic entry level preparation for the nursing profession and its inherent sub-issues. The conclusion of that tome addressed the thought that as nursing moves into the future, one of the top priorities of the profession will be, after 100 years of its existence, to behaviorally define "nursing". The summary suggested that perhaps through the impetus of the Southern Regional Education Board and others, we had taken the first steps toward doing just that.

This project, with its inherent limitations and complexities is an articulation of that summary. Albeit neophitically, the Nursing Task Delineation Pilot Study has provided a schema for a comprehensive, logical, and defensible counter to the widespread belief that "a nurse is a nurse, is a nurse". For,

if we in nursing cannot define the distinction between and among the multivarient practioners of the art, science and skill of nursing in an era of sophistication and high technology, is it reasonable to expect that the population we serve, our health care colleagues or third-party payers, to grasp such an elusive precept? Although the footprint in the sand is a small one at present, through this pilot project, the potential has finally been tapped.

REFERENCES

DeSantis, Grace: "Power, tactics, and the professionalization process." Nursing and Health Care, January, 1982.

Gilpatrick, Eleanor: The Health Services Mobility Study Method of Task Analysis and Curriculum Design. Volume 1. Basic Tools: Concepts, Task Identification, Skill Scales and Knowledge System. Employment and Training Administration, U.S. Department of Labor Contract No. 82-34-69-32, 1977.

Gilpatrick, Eleanor: The Health Services Mobility Study Method of Task Analysis and Curriculum Design. Volume 2. Writing Task Descriptions and Scaling Tasks for Skills and Knowledge: A Manual. Employment and Training Administration, U.S. Department of Labor Contract No. 82-34-69-32, 1977.

Gilpatrick, Eleanor: The Health Service Mobility Study Method of Task Analysis and Curriculum Design. Volume 3. Using the Computer to Develop Job Ladders. Employment and Training Administration, U.S. Department of Labor Contract No. 82-34-69-34, 1977.

Gilpatrick, Eleanor and Gullion, Christina: The Health Services Mobility Study Method of Task Analysis and Curriculum Design. Volume 4. Developing Curriculum Objectives from Task Data: A Manual. Employment and Training Administration, U.S. Department of Labor Contract No. 82-34-69-34, 1977.

Johnson, Stephen C.: "Hierarchical clustering schemes." Psychometrika, 32:241, 1967.

Kentucky Council on Higher Education: Part Five: Nursing. Kentucky and Health Sciences Education. Comprehensive Planning for Higher Education, A Phase One Report (1975). Frankfort, Kentucky.